PART 542 - EXHIBITS

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§MN542.50 Minnesota Plant Materials Annual Plan - 2005

MINNESOTA PLANT MATERIALS ANNUAL PLAN - 2005

The State Plant Materials Committee met on December 14-15, 2004 and developed the Minnesota State Annual Plan for 2005.

State Committee members present:

Robin Martinek, Agron, NRCS, St. Paul
David Wise, SC, NRCS, Cloquet
Noel Frank, DC, NRCS, Owatonna
David Wise, SC, NRCS, Cloquet
Cari Rebischke, DC, NRCS, Red Lake Falls
Jim Lemmerman, Forester, BWSR, Duluth
Jim Schafer, Renville SWCD, Hector
Sol Bijnagte, AMSWCD, Anoka
Gregg Thompson, AMSWCD, Anoka
Paul Flynn, SRC, NRCS, St. Paul
Jeff Hellerman, CD, NRCS, Morris
Steve Breaker, DC, NRCS, LeSueur
Nancy Jensen, PMC, NRCS, Bismarck, ND
Dwight Tober, PMS, NRCS, Bismarck, ND
Ginger Kopp, Forester, NRCS, St. Paul
Steve Poppe, WCROC, Morris
John Crellin, RC, NRCS, Brooklyn Cntr

Minnesota's plant material specialist is Dwight Tober. He can be reached at:

USDA-NRCS State Office
P.O. Box 1458
Bismarck, ND 58502

Telephone: 701-530-2075
Fax: 701-530-2112
Voice Mail: 9051-2075
e-mail: Dwight.Tober@nd.usda.gov

Wayne L. Duckwitz, PMC Manager, wayne.duckwitz@nd.usda.gov
Mike J. Knudson, Assistant Manager/Forester, mike.knudson@nd.usda.gov
Nancy K. Jensen, Agronomist, nancy.jensen@nd.usda.gov

Bismarck Plant Materials Center
USDA-NRCS
3308 University Drive
Bismarck, ND 58504-7564

Telephone: 701-250-4330
Fax: 701-250-4334

2005 Area Plant Materials Committee Members Are:

Area I

Randy Huelskamp, Crookston
Al Gustafson, Thief River Falls
Scott Johnson, Roseau SWCD
Larry Voltz, Bemidji
Cari Rebischke, Red Lakes Falls
Kathy Fillmore, Thief River Falls

Area II

Jeff Lepp, Fergus Falls, Chair
Bruce Becker, Perham
Loren Olsen, Grant SWCD
Bob Honeman, Fergus Falls
Jeff Hellerman, Morris

Area III

Mike Oja, Grand Rapids, Chair
Gary Schmiedlin, Duluth AO,
Susan Twingstrom, Mille Lacs SWCD
Julie Lindner, Hinckley
Art Norton, Itasca SWCD

Area IV

Pat Gehling, Foley, Chair
Ed Musielewicz, Elk River
Doug Schoenecker, Scott SWCD, MACDE
John Crellin, Brooklyn Center

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Area V

Michael Nienaber, Marshall, Chair
Kurt Halfmann, Luverne
Merle Behrens, Lyon SWCD
Rich Giles, Redwood Falls
Bob Meyers, DNR, Marshall
Mark Rose, Marshall
Arlyn Gehrke, Rock Cty. Office of Land Mgt.
Krecia Leddy, Ortonville

Area VI

Steve Breaker, LeCenter, Chair
Rick Reimer, MACDE, Willmar
Jason Sickmann, Blue Earth
Kevin Ostermann, SWCD, St. Peter

Area VII

Noel Frank, Owatonna, Chair
Dan Gunderson, Winona
Bob Joachim, Preston
Dan Arndt, Steele SWCD
Eric Gulbransen, Steele SWCD
Mary Weis, Wabasha

Other Members

Jim Lemmerman, BWSR, Duluth
Jim Schafer, MASWCD, Hector
Robin Martinek, St. Paul
Ginger Kopp, St. Paul
Steve Poppe, WCROC, Morris
David Wise, Tribal Liaison, Duluth
Mark Oja, St. Paul
Dan Gullickson, DOT, St. Paul
Gregg Thompson, AMSWCD

The following are action items for the 2004 Plant Materials Program:

| | ACTION ITEM | WHO | START | END |
|---|---|---|---|---|
| 1. | Provide technical guidance, plant materials, and assistance in bio-engineering streambank/ lakeshore stabilization projects. | Tober<br>Kopp | Ongoing | |
| 2. | Continue to support implementation of native plant materials certification program in Minnesota. | Flynn, Tober<br>Kopp<br>Lemmerman | Ongoing | |
| 3. | Keep field personnel informed on current developments in the plant materials program through regular meetings of area committees and minutes, PMC Activity Reports, and Technical Reports. | Martinek<br>Area Chairs | Ongoing | |
| 4. | Encourage production and use of plant materials released varieties of trees, shrubs, and grasses. Coordinate production with PMS/PMC. | PMC/PMS | Ongoing | |
| 5. | Encourage area plant materials committees to maintain a high level of visibility and activity for the benefit of all area personnel. Promote inter-area technology transfer. | ECS Staff<br>Area Committee<br>Tober | Ongoing | |

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| | ACTION ITEM | WHO | START | END |
|---|---|---|---|---|
| 6. | Collect Indian breadroot seed and sand, Indiangrass plants. | Tober<br>Area Res. Con. | 03/05 | 05/05 |
| 7. | Provide technical assistance to grass seed growers and nurseries. | Tober | Ongoing | |
| 8. | Send 1 person per area to the Plant Materials Center, Bismarck, North Dakota, and review the PMC activities. | Martinek<br>Flynn<br>Oja | 05/05 | 09/05 |
| 9. | Hold a meeting to discuss Staples FEP. | Martinek<br>Tober<br>Partners | 03/05 | 10/05 |
| 10. | Conduct annual winter planning meeting of the State Plant Materials Committee. | Flynn<br>Martinek<br>Tober | 12/05 | 01/06 |
| 11. | Monitor and coordinate invasive species concerns and policies. | State<br>Committee<br>Martinek | Ongoing | |
| 12. | Continue cooperative PMC efforts with outreach and tribal liaison. | Tober<br>Wise | Ongoing | |
| 13. | Encourage attendance at the Agroforestry Conference at Rochester, June 12-15, 2005. | Kopp<br>Flynn<br>Tober | 04/05 | 07/05 |
| 14. | Encourage attendance at the Invasive Species Worshop at Bismarck, ND, April 5-7, 2005. | Martinek<br>Tober | 01/05 | 05/05 |
| 15. | Support the perennial food plot efforts at the PMC and consider additional partners for the project. | Tober<br>Oja | 12/04 | 10/05 |
| 16. | Develop release brochures for Lodorm green needle grass and Mandan Canada wildrye. | PMC Staff | 01/05 | 06/05 |
| 17. | Establish a culturally significant plant FEP at the Fond du Lac College. | Wise<br>Tober | Ongoing | |
| 18. | Promote new PMC video to field staff. | Lindner<br>Martinek | Ongoing | |
| 19. | Distribute growers/vendors lists to field and file the lists in Section I of the eFOTG under the Plant Materials folder. | Martinek<br>Flynn | 02/05 | 03/05 |

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FIELD EVALUATION PLANTINGS

The Natural Resources Conservation Service (NRCS) has entered into cooperative agreements with Soil and Water Conservation Districts and other state and federal agencies for evaluation of plant materials for conservation use at these locations:

Study ND0007WI, Agroforestry Demonstration and Evaluation, Central Lakes College, Staples, Minnesota.

Study 38I318K, Field Evaluation of Woody Plant Materials, University of Minnesota, West Central Research and Outreach Center, Morris, Minnesota.

Study 38I342K, Field Evaluation of Woody Plant Materials, University of Minnesota, North Central Research and Outreach Center, Grand Rapids, Minnesota. Cooperative with Itasca County SWCD.

Study 38A347K, Field Evaluation of Woody Plant Materials, University of Minnesota, Becker Research Farm, Becker, Minnesota. In cooperation with the University of Minnesota and the Anoka Sand Plain Association of Soil and Water Conservation Districts.

FIELD, SEED INCREASE, AND SPECIAL PLANTINGS

All requests for plant materials were reviewed in relation to the needs and priorities indicated in the Minnesota Long-Range Program.

All active field plantings will be evaluated in 2004 (see attached list of active plantings). In addition, high priority will be given to evaluate active plantings of species that have been scheduled to be released in the near future.

The district conservationist is responsible for recording the information requested and scheduling evaluations needed to secure data in a timely manner.

VARIETY RELEASE

No new plan releases are planned for 2005.

PLANT SEED COLLECTION

Collect Indian breadroot seeds and Indiangrass plants.

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SCHEDULE OF PLANT MATERIALS ACTIVITIES - 2004

| When | Who | Where | What |
|---|---|---|---|
| 4/5-6 | Selected comm. Members | Bismarck, ND | Invasive Species Workshop |
| 4/11-15 | Interested FOs | Statewide | Collect Indiangrass |
| 5/11-12 | FO Staff, Tober | Morris<br>Becker<br>Staples | Spring Evaluation and Planting - woody FEPs and other plots |
| 5/25-28 | FO Staff, Tober | Fond du Lac<br>Grand Rapids<br>Milaca | Spring Evaluation and Planting – woody FEPs and other plots |
| 6/12-15 | Selected comm. Members | Rochester | Agroforestry Conference |
| 6/15-18 | Tober | Bismarck PMC | PPFA/70th Anniversary Field Day and Tri-State Advisory Committee |
| 8/2-4 | PMC Staff, Selected MN FO/AO | Bismarck, ND | Plant Materials Center Training |
| 8/22-24 | Tober, FO Staff | Becker<br>Staples<br>Grand Rapids<br>Morris | FEP Evaluations |
| 12/13-14 | Tober, ECS, Area Chr. | Waite Park | State PM Committee Mtg |

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LONG-RANGE PROGRAM FOR PLANT MATERIALS IN MINNESOTA
2003-2007

Introduction. The mission of the Natural Resources Conservation Service in Minnesota is to assist the Soil and Water Conservation Districts in the conservation, development and productive use of soil, water, air, plant, and animal resources. The objective of plant materials activities is to assemble, evaluate, and release improved plant materials; determine techniques for their successful use; provide for their commercial increase; and promote their use in conservation and environmental improvement programs.

Climate. Minnesota is largely a continental climate characterized by warm summers and cold winters. The climate of northeastern Minnesota around Lake Superior is moderated during summer months by that water body. Long term precipitation averages from 19 inches in northwestern Minnesota to 32 inches in the southeast and northeast. About 2/3 of the total annual precipitation is received during the growing season from April to September. Annual precipitation can fluctuate considerably from the long term average. Temperatures vary throughout the state with the coldest temperatures occurring across the northern part and the warmest in the southwest. The mean annual temperature is 45 degrees F. The mean temperature in the Twin Cities during the growing season is 65 degrees F (mean maximum 75 degrees F) and mean minimum of 55 degrees F. The average frost free season varies from 112 days in the north to 150 days in the southern parts of the state. The last killing frost occurs May 2 and the first killing frost October 6 in the Twin Cities area.

Major Land Resource Areas (Austin. 1972 1/). The Natural Resources Conservation Service Plant Materials program identifies need and priorities in LRA (56) Red River Valley of the Northern Great Plains Spring Wheat Region; LRA (102) Rolling Till Prairie, (103) Central Iowa and Minnesota Till Prairie, (104) Eastern Iowa and Minnesota Till Prairie, (105) Northern Mississippi Valley Loess Hills of the Central Feed Grains and Livestock Region; and LRA (88) Northern Minnesota Glacial Lake Basins, (57) Northern Minnesota Gray Drift, (91) Wisconsin and Minnesota Sandy Outwash, (90) Central Wisconsin and Minnesota Thin Loess and Till, and (93) Superior Stony and Rocky Loamy Plains and Hills of the Northern Lake States Forest and Forage Region. Refer to map of Minnesota showing major land resource areas (MLRA).

Plant Materials Needs and Priorities. The plant materials needs and priorities within the state are identified by major land resource area, land use, relative importance, status of current knowledge, and impact of solution on each of the identified needs. Needs and priorities were identified and rated by consensus of the state plant materials committee. High priority needs received a rating of 8 or greater, medium priority needs rated between 4-7, and low priority needs rated 3 or less. See Table 1.

1/ Austin, M.E. 1981, Land Resource Regions and Major Land Resource Areas of the United States. USDA Agr. Handbook No. 296.

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TABLE 1
PLANT MATERIALS NEEDS AND PRIORITIES

| Priority Rank | Need |
|---|---|
| HIGH PRIORITY | |
| 1. | Develop new and improved tree cultivars with emphasis on native species at all FEP sites to improve use and effectiveness of field windbreak and farmstead shelterbelt plantings (MLRA's 56, 57, 88, 90, 91, 102, 103, 104, and 105). |
| 2. | New techniques for establishing native species in existing vegetative cover (MLRA's 56, 57, 90, 91, 102, 103, 104, and 105). |
| 3. | New techniques to establish multi specie (15) native forbs and grasses for prairie restoration purposes. (All MLRA's) |
| 4. | Establish practice standard and design woody species for riparian buffer areas. (All MLRA's) |
| 5. | Plants and techniques for streambank and lake shoreline stabilization and protection (All MLRA's). |
| 6. | Cool season grass species cultivar adaptation (MLRA's 56, 57, 88, 90, 91, 102, 103, 104, and 105). |
| MEDIUM PRIORITY | |
| 7. | New techniques for establishment of cool and warm season grasses on critical areas and in waterways (All MLRA's). |
| 8. | Alternative grazing techniques for proper utilization of warm season grasses in a season long forage program (All MLRA's). |
| 9. | Perennial and/or annual herbaceous barriers to control wind erosion on irrigated lands and in specialty crops (MLRA's 56, 57, 88, 90, 91, 102, and 103). |
| 10. | Identify suitable plant materials and develop seed sources for plants to be used in wetland restoration and creation (All MLRA's). |
| LOW PRIORITY | |
| 11. | Identify suitable plant materials for saline sites (MLRA 56). |
| 12. | Identify suitable herbaceous and woody plant materials for bio-mass production (All MLRA's). |
| 13. | Grasses for heavy use areas (MLRA's 56, 57, 88, 90, 91, 93, 102, 103, 104, and 105). |

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### HIGH PRIORITY ITEMS

1. New and improved tree cultivars to improve use and effectiveness in field and farmstead windbreaks. There is a continuing need and potential to identify new or improved trees and shrubs that increase effectiveness for soil erosion control; special soil conditions (i.e. high PH); wildlife habitat; resistance to diseases, insects, and agricultural chemicals; snow distribution; and energy efficiency.

2. New techniques for establishing native species in existing vegetative cover. Techniques are needed to establish native species in a 'no-till' situation or enhance existing stands.

3. New techniques to establish multi specie (15) native forbs and grasses for prairie restoration purposes. Develop seed sources and establishment technique for native mixtures in various seedbeds and seeding periods.

4. Establish practice standard and design woody species for riparian buffer areas. Identify woody species and sources for riparian areas.

5. Plants and techniques for streambank and lake shoreline stabilization and protection. Plants for use in projects to stabilize streambanks and shorelines need to be identified and evaluated.

6. Cool season grass cultivar adaptation. Establish FEP's in cooperation with the University of Minnesota to evaluate the adaptation of cool season grass species cultivars for conservation uses.

### MEDIUM PRIORITY ITEMS

7. New techniques for establishment of cool and warm season grasses on critical areas and in waterways. Critical areas including newly constructed grass waterways have a high erosion hazard until vegetation is established. New techniques to establish desired species on critical areas, especially grass waterways, need to be developed.

8. Alternative grazing techniques for proper utilization of warm season grasses in a season long forage program. Cultivars of switchgrass and big bluestem are adapted to part of all of Minnesota for forage production. Grazing management techniques for optimum utilization of these species in season long forage programs need to be demonstrated and documented.

9. Perennial and/or annual herbaceous barriers to control wind erosion on irrigated land and in specialty crops. Installation of center pivot irrigation systems cause removal of field windbreaks. Alternative shrub species and grass barriers for wind erosion control need to be evaluated under irrigation systems.

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10. Identify suitable plant materials and develop suitable seed sources for plants to be used in wetland restoration and creation. There is a need to identify and develop plant materials suitable to achieve identified functions and values in wetland restorations and creations.

LOW PRIORITY ITEMS

11. Identify suitable plant materials for saline sites. Large areas in MLRA 56 are saline, making it difficult to establish plants for conservation or economic use. Plant materials for these sites need to be identified and evaluated.

12. Plant materials for bio-mass production. Cooperate with ongoing efforts by the USFS and other agencies to identify grass and woody plant species for use in bio-mass production. Evaluate techniques to promote the establishment, growth and harvest of identified species.

13. Grasses for heavy use areas. Grass species for high use areas are needed. Plant materials for these purposes need to be identified and evaluated.

INFORMATION AND TRAINING

1. Need to create a higher visibility for the plant materials program and the purposes it serves by:

   A. Provide more feed-back to field offices on results being obtained in evaluations being carried out.

   B. Utilize table top display on plant materials program.

   C. Utilize slide sets as training tool on the plant materials program.

2. Develop on-going program to take a group of NRCS employees to the Bismarck PMC annually as training on the plant materials program.

3. Develop a plan of action to evaluate all field plantings and update status of planting to keep field office files current.

4. Need to provide more information to field offices on chemical weed control in woody species plantings.

5. Distribute to the field, technical information regarding the use of mulches around woody plantings for controlling competition.